AMENDMENTS TO THE CLAIMS

Claim 1. (Currently Amended) A luminescent channel sensor which is a nanochannel sensor having a nanochannel thin film in which oxide layers have surfactant micelles therein, ~~characterized in that~~ <u>wherein</u> the presence of a target substance in a sample solution is detected with a luminescence intensity of the thin film provided by recognition of the target substance with a luminescent recognition reagent in the nanochannels.

Claim 2. (Currently Amended) The luminescent nanochannel sensor of claim 1, ~~characterized in that~~ <u>wherein</u> the oxide layer of the nanochannel is made mainly of silicon oxide.

Claim 3. (Currently Amended) The luminescent nanochannel sensor of claim 1 ~~or 2,~~ ~~characterized in that~~ <u>wherein</u> the luminescent recognition reagent and the sample solution are mixed, the luminescent recognition reagent and the target substance recognized therewith are extractively trapped in the nanochannels, and the presence of the target substance in the sample solution is detected with the luminescence intensity of the thin film.

Claim 4. (Currently Amended) The luminescent nanochannel sensor of claim 1 ~~or 2,~~ ~~characterized in that~~ <u>wherein</u> the nanochannels are previously impregnated with the luminescent recognition reagent, and the presence of the target substance in the sample solution is detected with the luminescence intensity of the thin film provided by the trapping recognition.

Claim 5. (New) The luminescent nanochannel sensor of claim 2 wherein the luminescent recognition reagent and the sample solution are mixed, the luminescent recognition reagent and the target substance recognized therewith are extractively trapped in the nanochannels, and the presence of the target substance in the sample solution is detected with the luminescence intensity of the thin film.

Claim 6. (New) The luminescent nanochannel sensor of claim 2 wherein the nanochannels are previously impregnated with the luminescent recognition reagent, and the presence of the target substance in the sample solution is detected with the luminescence intensity of the thin film provided by the trapping recognition.